

Variation in Recombinant Zoster Vaccine Uptake and Completion by Utilization of Office-based Vaccination

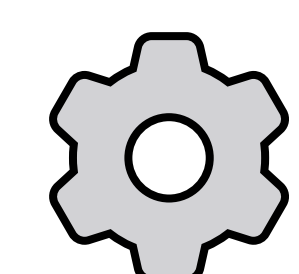
Nikita Stempniewicz¹, Catherine B. McGuinness², Chi-Chang Chen², Marie Yasuda², Dajun Tian², Daniel Verdi^{1*}, Justin Gatwood¹

¹GSK, Philadelphia, PA, US; ²IQVIA, Wayne, PA, US; *Affiliation during the study

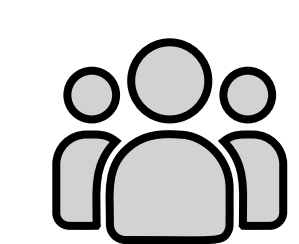
Background

- In the US, RZV is recommended for immunocompetent adults aged ≥ 50 years as well as adults aged ≥ 19 years who are immunosuppressed due to disease or therapy¹
- RZV coverage in US adults aged ≥ 50 years was 25.6% (≥ 1 dose) in 2022²
- Though RZV is predominately administered in the pharmacy setting, PCPs play an important role in vaccination for older adults^{3,4}
- The objective of this analysis was to describe how practice-level factors, such as the location of vaccine administration, may influence RZV uptake and completion, as this understanding can inform targeted interventions to improve vaccination coverage

Study design



Design: Retrospective study utilizing 5 years of IQVIA open-source US claims (2018–2022)



Population:

- HCOs:** Sampled across geographic regions and organization sizes
- PCPs:** Providers with ≥ 30 attributed patients^a
- Patients:** Aged ≥ 50 years as of 01/01/2022, with ≥ 2 preventative or evaluation and management visits with the same PCP (≥ 1 visit in 2022 and ≥ 1 visit in 2018–2021)



Outcomes^b and Analysis:

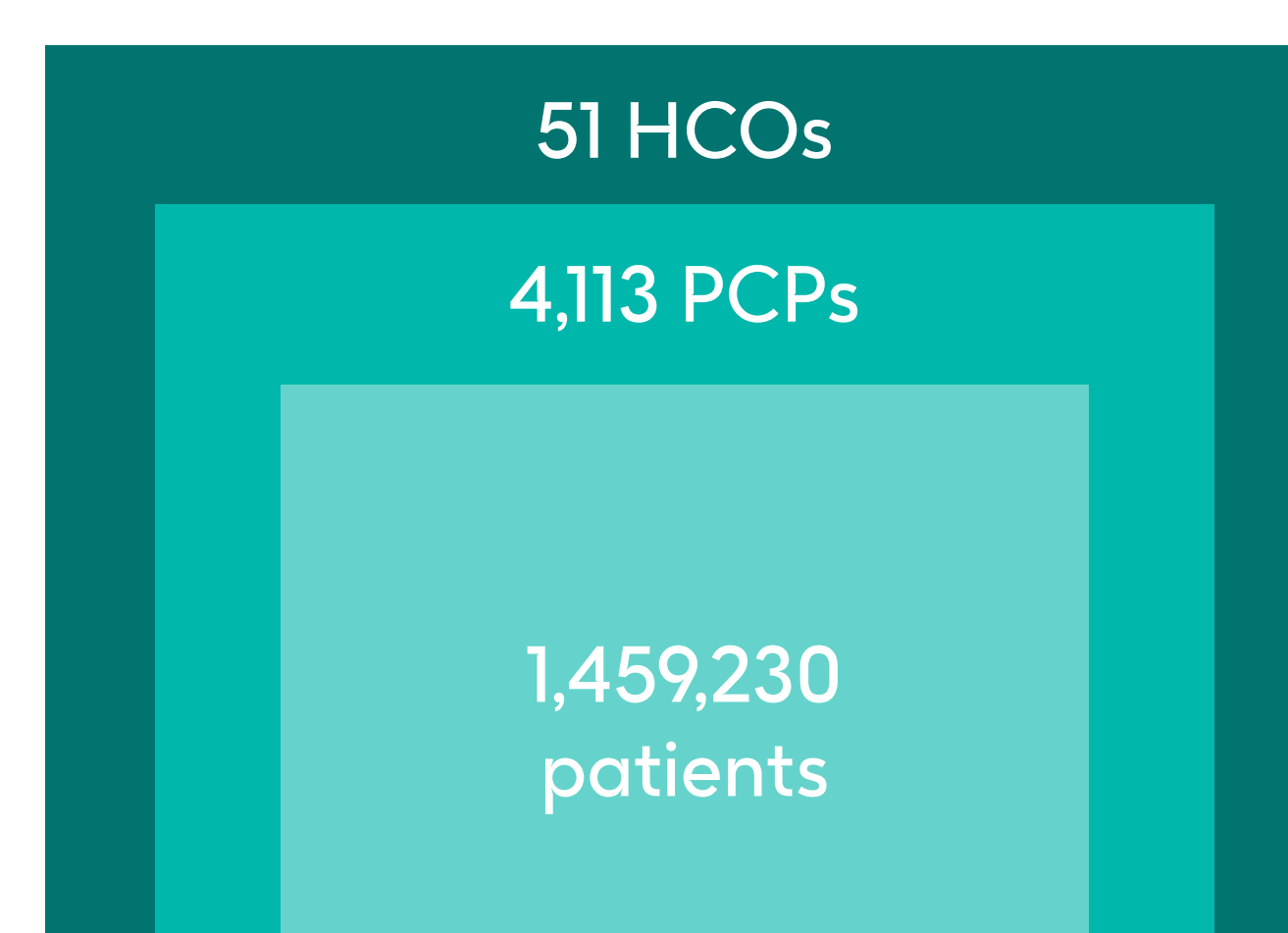
- Office-based vaccination^c:** Receipt of 1st RZV dose in a physician's office
- RZV uptake:** Receipt of ≥ 1 RZV dose
- RZV series completion:** Receipt of 2nd RZV dose within specified follow-up windows from 1st RZV dose^d
- Using the median proportion of office-based RZV vaccination across all PCPs, PCPs were identified as having **high** (above median) or **low** (median and below) proportions of office-based RZV vaccination. Outcomes were described in patients attributed to PCPs who had high versus low proportions of office-based RZV vaccination

^aPatients were attributed to PCPs based on their most recent visit. ^bReceipt of RZV was measured using medical and pharmacy claims during the study period (2018–2022) across all providers. ^cOffice-based vaccination was described among patients who received ≥ 1 RZV dose during the study period, overall and stratified by PCP and HCO. Receipt of RZV in a physician's office was measured using medical claims during the study period (2018–2022) across all providers. ^dRZV series completion was described among patients who received their 1st RZV dose by June 30, 2022.

Results

Population characteristics

Included population:



Mean (SD) patient age was 67 (10) years

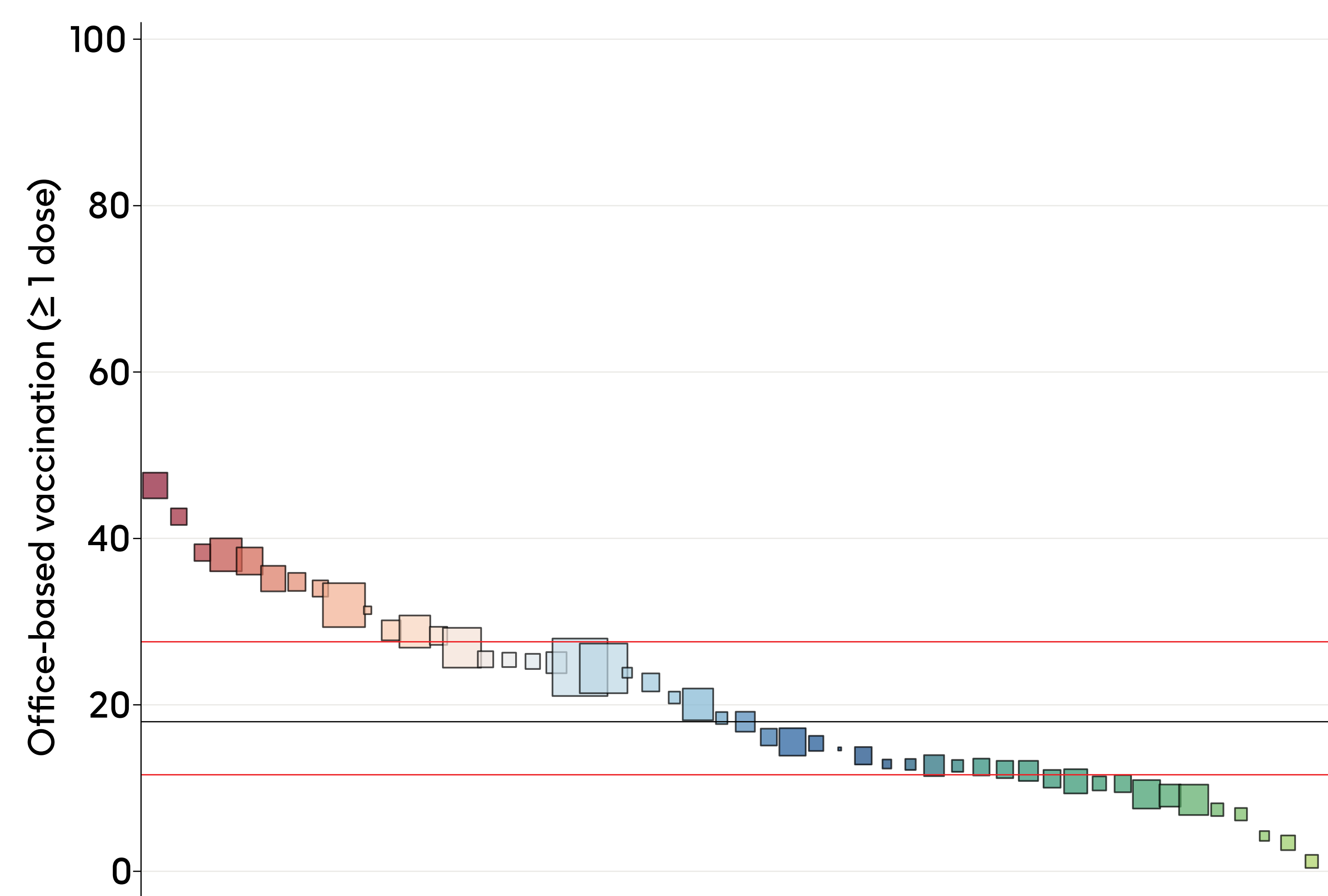
56% were female

24% of patients with ≥ 1 dose of RZV received their 1st RZV dose in a physician's office

Note: Further HCO, PCP, and patient characteristics are included in the Supplemental Data (scan QR code).

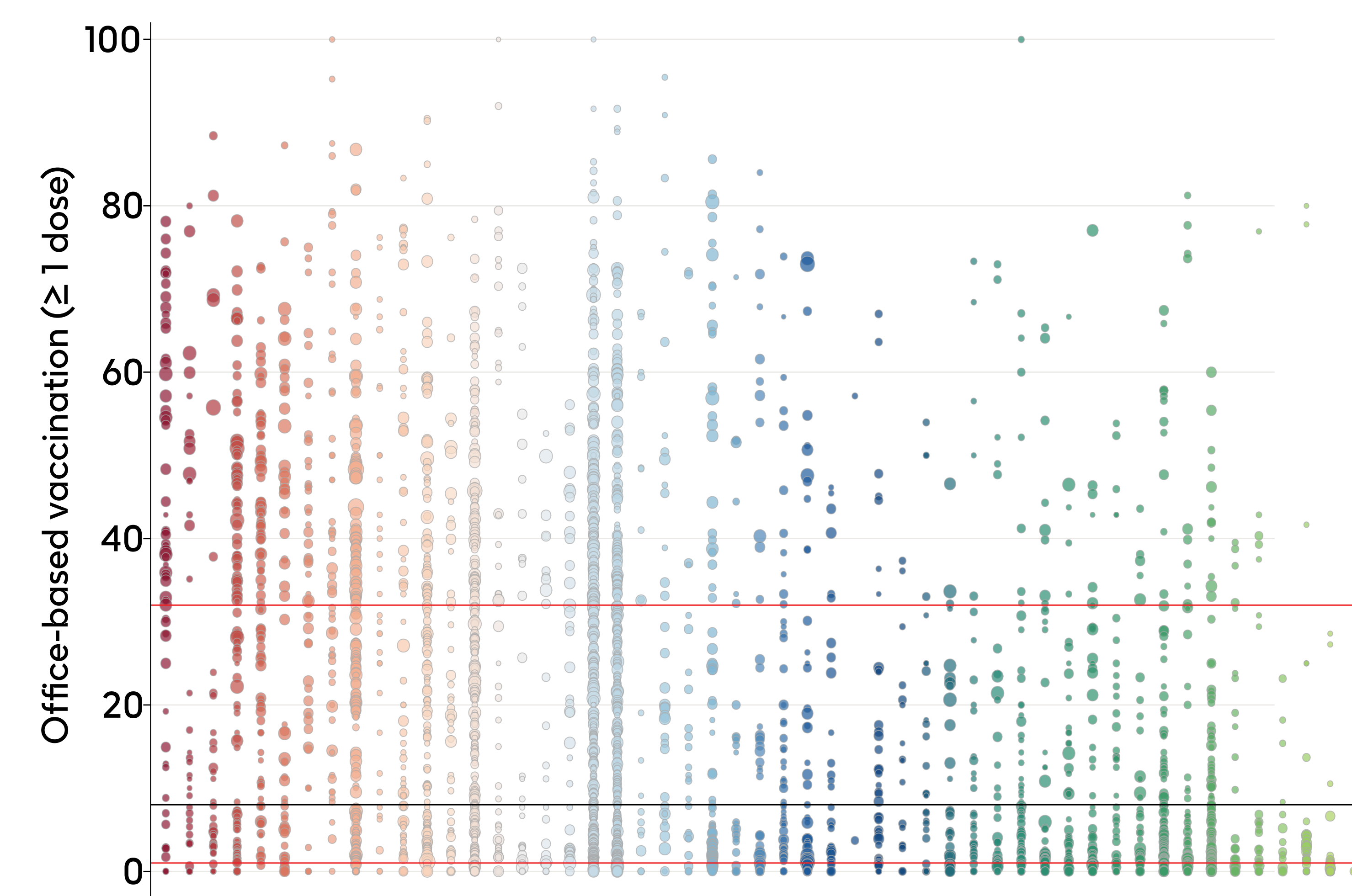
Office-based vaccination across HCOs and within HCOs across PCPs

Office-based vaccination (%) across HCOs



Each square represents an HCO, sized by patient count. HCOs are ranked horizontally by descending office-based vaccination. The **black line** shows the median office-based vaccination across HCOs (18%), and the **red lines** indicate the 25th (12%) and 75th (28%) percentiles for office-based vaccination

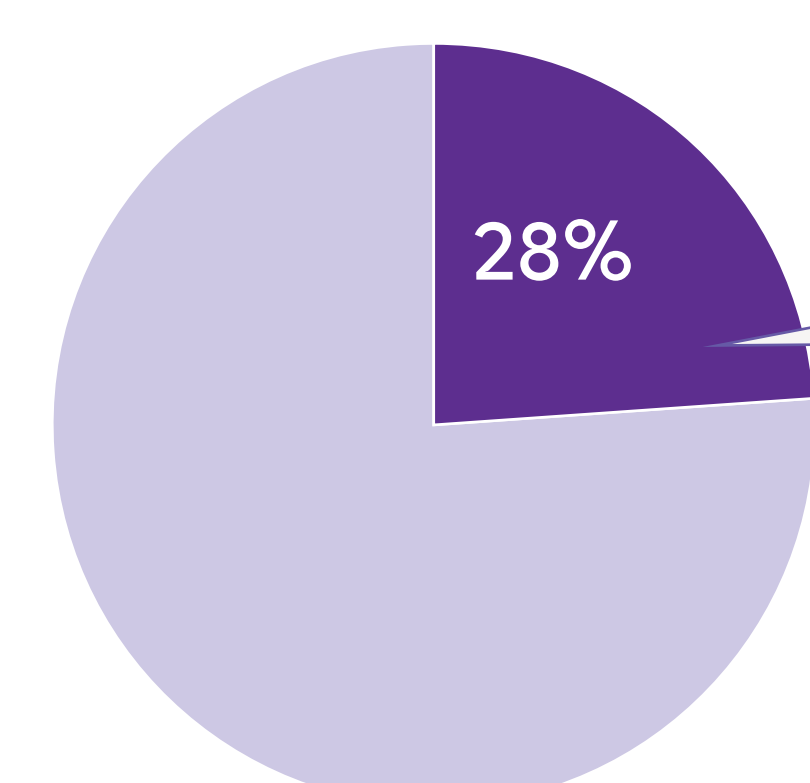
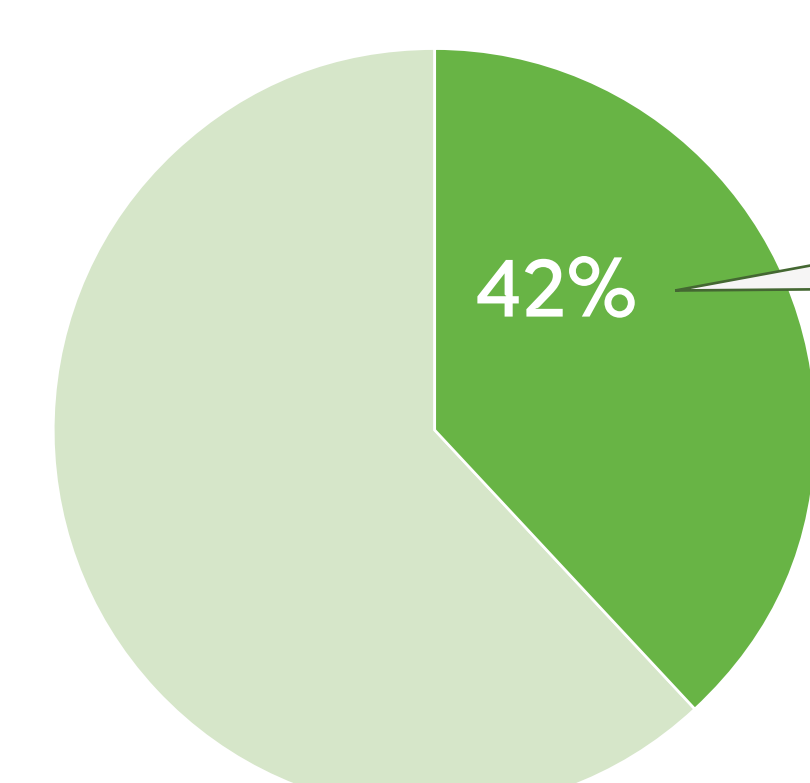
Office-based vaccination (%) within HCOs across PCPs



Each circle represents a PCP, sized by patients with ≥ 1 dose of RZV. Columns of colored circles represent office-based vaccination for PCPs in corresponding HCOs with the same color. The **black line** indicates the median office-based vaccination across PCPs (8%), and **red lines** show the 25th (1%) and 75th (32%) percentiles of office-based vaccination

RZV uptake and series completion

Received ≥ 1 dose of RZV



Among patients who received ≥ 1 dose of RZV:

80% of patients completed the RZV series within 12 months



And 68% of patients did so within 2–6 months

84% of patients completed the RZV series within 12 months



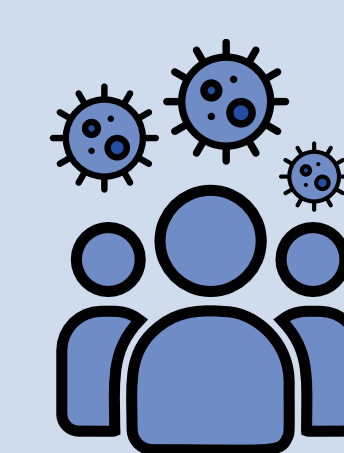
And 74% of patients did so within 2–6 months

Patients seen by PCPs with **high proportions of office-based vaccination** had numerically **higher RZV uptake** than patients seen by PCPs with low proportions of office-based vaccination

Among patients who received ≥ 1 dose of RZV, patients seen by PCPs with **low proportions of office-based vaccination** had numerically **higher RZV series completion^a** compared with patients seen by PCPs with high proportions of office-based vaccination, within both 2–6 months and 12 months

^aThe association of RZV series completion with lower proportion of office-based vaccination is likely attributed to pharmacy-based vaccination.

Conclusions



Office-based vaccination was highly variable across HCOs and PCPs, suggesting differences in vaccination practices

Patients attributed to PCPs with higher proportions of office-based vaccination were more likely to initiate the series, highlighting a potential association between in-office access and vaccine uptake



Additional efforts may be warranted to support series completion when initiated in a physician's office

These findings support the importance of multi-setting vaccination strategies to optimize both RZV uptake and completion

Abbreviations

HCOs, health care organizations; PCPs, primary care providers; RZV, recombinant zoster vaccines; SD, standard deviation.

References

- Anderson TC, et al. MMWR Morb Mortal Wkly Rep. 2022;71(3):80–84.
- CDC AdultVaxView. Vaccination Coverage among Adults in the United States. National Health Survey. 2022. March 2024.
- LaMori J, et al. Vaccine. 2022;40(15):2266–2273.
- Eilers R, et al. Prev Med. 2014;69:224–234.

Acknowledgments

The authors acknowledge Seongbin Shin, GSK for publication management. The authors also thank Costello Medical for editorial assistance and publication coordination, on behalf of GSK, and acknowledge Clare Wiberg, Costello Medical, US for medical writing and editorial assistance based on authors' input and direction.

Disclosures

Funding: This study was funded by GSK (GSK study identifier: VEO-000676).

Conflicts of interest: NS is employed by GSK and holds financial equities in GSK; CBM is a Pfizer shareholder and an employee of IQVIA, which was paid by GSK to conduct this study; CCC, MY, and DT are employees of IQVIA, which was paid by GSK to conduct this study; DV is employed by Shionogi Inc. and was employed by GSK at the time of this study; JG is employed by GSK and holds financial equities in GSK and reported grants from Merck & Co. and AstraZeneca, consulting fees from Merck & Co. and Janssen, and support for attending meetings and/or travel from Genentech.



Audio File



SCAN ME

GSK

Variation in Recombinant Zoster Vaccine Uptake and Completion by Utilization of Office-based Vaccination

Nikita Stempniewicz¹, Catherine B. McGuinness², Chi-Chang Chen², Marie Yasuda², Dajun Tian², Daniel Verdi^{1*}, Justin Gatwood¹

¹GSK, Philadelphia, PA, US; ²IQVIA, Wayne, PA, US; *Affiliation during the study

Supplement

Table S1. Included population characteristics

Table S1a. HCO		Table S1b. PCP		Table S1c. Patient	
Characteristic, n (%)	HCOs (N=51)	Characteristic, n (%)	PCPs (N=4,113)	Characteristic	Patients (N=1,459,230)
Size		Age		Age in years, mean (SD)	67 (10)
Large	16 (31.4)	19–49 years	1,024 (24.9)	Sex, n (%)	
Medium	22 (43.1)	≥50 years	3,089 (75.1)	Male	640,927 (43.9)
Small	13 (25.5)	Provider specialty		Female	818,303 (56.1)
Region		Geriatric medicine	54 (1.3)	Payer type, n (%)	
Midwest	12 (23.5)	Family medicine	2,375 (57.7)	Medicare	473,242 (32.4)
Northeast	10 (19.6)	Internal medicine	1,684 (40.9)	Commercial	977,903 (67.0)
South	18 (35.3)	PCP region		Medicaid	8,085 (0.6)
West	11 (21.6)	Northeast	526 (12.8)	Participant region, n (%)	
For-profit status		Midwest	1,059 (25.7)	Northeast	168,867 (11.6)
For profit	4 (7.8)	West	1,006 (24.5)	Midwest	354,627 (24.3)
Not for profit	46 (90.2)	South	1,522 (37.0)	South	611,173 (41.9)
Unknown	1 (2.0)	PCP degree		West	324,563 (22.2)
Academic status		MD	3,445 (83.8)	Number of well visits per year, mean (SD)	0.6 (0.5)
Academic	48 (94.1)	DO	668 (16.2)	Number of E&M visits per year, mean (SD)	5.4 (4.4)
Not academic	3 (5.9)	Years since graduation		CCI score, n (%)	
Rural vs. urban		0–4	0 (0.0)	0	401,391 (27.5)
Rural	1 (2.0)	5–9	57 (1.4)	1	258,021 (17.7)
Urban	50 (98.0)	10–14	214 (5.2)	2+	799,818 (54.8)
		15–19	348 (8.5)		
		20+	3,494 (85.0)		

Table S2. Regression results

Variable	Odds Ratio	95% Confidence Interval		p-value
		Lower Limit	Upper Limit	
Dependent variable: RZV uptake (Yes/No)				
Independent Variables				
HCO region (reference: South)				
Northeast	0.92	0.84	1.01	0.098
Midwest	1.06	0.99	1.14	0.110
West	1.13	1.03	1.24	0.014
HCO size (reference: large)				
Small	1.33	1.24	1.42	<.0001
Medium	1.03	0.98	1.09	0.217
HCO for profit status (reference: not for profit)				
For profit	1.01	0.93	1.09	0.870
HCO academic status (reference: not academic)				
Academic	1.12	1.01	1.24	0.032
HCO in-office RZV vaccination rate (reference: low)				
High	1.10	1.05	1.16	0.000
PCP region (reference: South)				
Northeast	0.97	0.89	1.06	0.501
Midwest	1.03	0.97	1.10	0.303
West	1.11	1.02	1.20	0.017
PCP participant volume (tertile based; reference: large [429–1966 patients per PCP])				
Small (30–168 patients per PCP)	0.78	0.75	0.82	<.0001
Medium (169–428 patients per PCP)	0.90	0.86	0.94	<.0001
PCP age (reference: ≥50)				
19–49	1.09	1.04	1.15	0.001
PCP years since graduation (reference: 20+ years)				
0–19 years	1.02	0.96	1.09	0.514
PCP specialty (reference: family medicine)				
Geriatric medicine	1.29	1.10	1.52	0.002
Internal medicine	1.14	1.10	1.19	<.0001
PCP in-office RZV vaccination rate (reference: low)				
High	1.59	1.53	1.65	<.0001

Variable	Odds Ratio	95% Confidence Interval		p-value
		Lower Limit	Upper Limit	
Dependent variable: RZV uptake (Yes/No)				
Independent Variables				
Participant age (reference: 65+)				
50–59	0.67	0.66	0.69	<.0001
60–64	1.08	1.05	1.10	<.0001
Participant sex (reference: male)				
Female	1.05	1.04	1.06	<.0001
Participant payer type (reference: Medicare)				
Commercial	1.04	1.02	1.05	<.0001
Medicaid	0.85	0.77	0.95	0.003
CCI score (reference: 0)				
1	0.94	0.92	0.95	<.0001
2+	0.90	0.89	0.91	<.0001
Immunodeficient of immunosuppressive condition (reference: no)				
Yes	1.14	1.13	1.15	<.0001
Pharmacy density (reference: ≥1 pharmacy per 3,500 population)				
<1 pharmacy per 3,500 population	0.97	0.95	0.99	0.002
ADI percentile (reference: 1–25 [lowest level of "disadvantage"])				
26–50	0.92	0.89	0.95	<.0001
51–75	0.87	0.83	0.90	<.0001
76–100 (highest level of "disadvantage")	0.80	0.76	0.84	<.0001
Participant household income (reference: \$150,000+)				
≤\$49,999	0.63	0.62	0.64	<.0001
\$50,000–\$74,999	0.70	0.68	0.71	<.0001
\$75,000–\$99,999	0.77	0.76	0.78	<.0001
\$100,000–\$149,999	0.86	0.85	0.87	<.0001
Participant education (reference: High School/VoTech)				
Completed college	1.08	1.07	1.09	<.0001
Completed graduate school	1.26	1.24	1.28	<.0001
Participant race/ethnicity (reference: Caucasian)				
African American	0.83	0.81	0.85	<.0001
Hispanic	0.95	0.93	0.97	<.0001
Asian - other	1.18	1.14	1.22	<.0001

Abbreviations
ADI, Area Deprivation Index; DO, doctor of osteopathic medicine; E&M, evaluation and management; HCOs, health care organizations; MD, doctor of medicine; PCPs, primary care providers; RZV, recombinant zoster vaccines; SD, standard deviation.

